

AMENDMENT TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1 – 9 (cancelled).

10. (Currently amended) A second-generation colloid prepared by
- (a) polymerizing one or more polymerizable components around a first-generation colloidal template;
 - (b) selectively removing the first-generation colloidal template to yield a porous polymer;
 - (c) deforming said porous polymer such that said porous polymer includes non-spherical pores;
 - (d) depositing a material into the non-spherical pores of the porous polymer; and
 - (~~ed~~) selectively removing the porous polymer.
11. (Original) The second-generation colloid of claim 10 wherein the porous polymer is an ordered, monodisperse macroporous polymer and the second-generation colloid is an ordered, monodisperse colloid.
12. (Withdrawn) The second-generation colloid of claim 11 wherein said second-generation colloid comprises a ceramic material.
13. (Withdrawn) The second-generation colloid of claim 11 wherein said second-generation colloid comprises a material selected from the group consisting of alumina, titania and zirconia.
14. (Withdrawn) The second-generation colloid of claim 11 wherein said second-generation colloid comprises an inorganic salt.

15. (Withdrawn) The second-generation colloid of claim 11 wherein said second-generation colloid comprises a material selected from the group consisting of cadmium sulfide and silver chloride.

16. (Currently amended) A metallic second-generation ordered, monodisperse colloid prepared by

- (a) polymerizing one or more polymerizable components around a first-generation colloidal template;
- (b) selectively removing the first-generation colloidal template to yield an ordered, monodisperse porous polymer having pores;
- (c) deforming said porous polymer such that said pores become non-spherical;
- (d) depositing a metal into the non-spherical pores of the porous polymer; and
- (ed) selectively removing the porous polymer.

17. (Previously amended) The second-generation colloid of claim 16 wherein said second-generation colloid comprises a material selected from the group consisting of nickel and gold.

18. (Withdrawn) The second-generation colloid of claim 11 wherein said second-generation colloid comprises a polymer.

19. (Withdrawn) The second-generation colloid of claim 11 wherein said second-generation colloid comprises a material selected from the group consisting of poly(p-phenylene vinylene), polypyrrole, poly(methyl methacrylate) and polystyrene.

20. (Currently amended) The second-generation colloid of claim 11 wherein said second-generation colloid comprises non-spherical particles.

21. (Currently amended) The second-generation colloid of claim 11 wherein said second-generation colloid comprises ellipsoidal particles~~An ellipsoidal second-generation ordered, monodisperse colloid prepared by~~

- ~~(a) — polymerizing one or more polymerizable components around a first generation colloidal template;~~
- ~~(b) — selectively removing the first generation colloidal template to yield an ordered, monodisperse porous polymer having ellipsoidal pores;~~
- ~~(c) — depositing a metal into the pores of the porous polymer; and~~
- ~~(d) — selectively removing the porous polymer.~~

22 – 29 (Cancelled).

30. (Currently amended) A method for preparing a second-generation colloid comprising the steps of:

- (a) providing a colloidal template;
- (b) infiltrating said colloidal template with polymerizable components;
- (c) polymerizing said polymerizable components;
- (d) selectively removing said colloidal template to yield a porous polymer;
- (e) heating said porous polymer above its glass transition temperature;
- (f) deforming said porous polymer such that said porous polymer includes non-spherical pores;
- (g) cooling said porous polymer below its glass transition temperature;
- (h) depositing a material into the non-spherical pores of said porous polymer;
and
- (i) selectively removing said porous polymer.

31. (Original) The method according to claim 30 wherein said colloidal template is an ordered, monodisperse colloid; said porous polymer is an ordered, monodisperse macroporous polymer; and said second-generation colloid is an ordered, monodisperse colloid.

32. (Original) The method according to claim 31 wherein said second-generation colloid comprises a ceramic material.

33. (Original) The method according to claim 31 wherein said second-generation colloid comprises a material selected from the group consisting of alumina, titania and zirconia.
34. (Original) The method according to claim 31 wherein said second-generation colloid comprises an inorganic salt.
35. (Original) The method according to claim 31 wherein said second-generation colloid comprises a material selected from the group consisting of cadmium sulfide and silver chloride.
36. (Original) The method according to claim 31 wherein said second-generation colloid comprises a metal.
37. (Original) The method according to claim 31 wherein said second-generation colloid comprises a material selected from the group consisting of nickel and gold.
38. (Original) The method according to claim 31 wherein said second-generation colloid comprises a polymer.
39. (Original) The method according to claim 31 wherein said second-generation colloid comprises a material selected from the group consisting of poly(p-phenylene vinylene) and polypyrrole.
40. (Original) The method according to claim 31 wherein said porous polymer comprises a material selected from the group consisting of poly(methyl methacrylate) and polystyrene.
41. (Currently amended) The method according to claim 31 wherein said second-generation colloid comprises oblate ~~spherical~~ particles.
42. (Original) The method according to claim 31, further comprising the step of deforming said porous polymer so that said second-generation colloid comprises ellipsoidal particles.

43. (Cancelled).

44. (Currently amended) An optical bandgap material comprising an second-generation ordered, monodisperse colloid prepared by the method of claim 1, ~~first depositing a material into the pores of a porous polymer prepared by polymerization of one or more polymerizable components housing an ordered, monodisperse colloidal template and second selectively removing said colloidal template.~~